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**THE FOLLOWING ARE THE ENGLISH TRANSLATION  
OF ANNEXES TO THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT (ARTICLE 34):**

Amended Sheets (pages 17-21)

English translation of the amended sheets of International  
Preliminary Examination Report.

### CLAIMS

1. Capacitive sensor including at least one measuring capacitor (Cm) having a first plate and a second plate, with at least one plate being capable of being moved with respect to an optimal starting position by a measuring voltage applied between the plates in a measuring phase, characterised in that it includes means (I1, I2, I3) for applying, simultaneously to the measuring voltage, in the measuring phase, an actuation voltage (Va) between said plates of the measuring capacitor, so as to bring the first and second plates substantially to the optimal starting position.

2. Capacitive sensor according to claim 1, characterised in that the means (I, I2, I3) for applying, in the measuring phase, an actuation voltage (Va) to a plate of the measuring capacitor include:

- a first switch (I1) having a first terminal connected to the first plate of the measuring capacitor and a second terminal connected to a first voltage Vh, which first switch (I1) is controlled by a first clock signal (H1), and

- a second switch (I2) having a first terminal connected to the second plate of the measuring capacitor (Cm) and a second terminal connected to a first operation voltage Vp1 so that:

$$Vp1 = Vdd + Va.$$

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where  $V_a$  is the actuation voltage and  $V_{dd}$  is a second voltage, which second switch (I2) is controlled by a second additional clock signal (H2) that does not overlap with the first clock signal, and

- 5 - a third switch (I3) having a first terminal connected to the second plate of the measuring capacitor ( $C_m$ ) and a second terminal connected to a second operation voltage  $V_{p2}$  so that the second operation voltage is written:

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$$V_{p2} = V_{ref} + V_a,$$

where  $V_{ref}$  is a reference voltage,

- which third switch (I3) is controlled by the first  
15 clock signal (H1).

3. Capacitive sensor according to claim 2, characterised in that the second plate of the measuring capacitor ( $C_m$ ) is connected to the first terminal of a  
20 fourth switch (I4) of which the second terminal is connected to the inverting input (-) of an operational amplifier (A) of which the supply voltage is the voltage  $V_{dd}$  and of which the non-inverting input (+) is connected to the reference voltage  $V_{ref}$ , wherein the  
25 fourth switch (I4) is controlled by the second clock signal (H2), a fifth switch (I5) and a negative feedback capacitance ( $C_1$ ) are mounted parallel between the inverting input (-) and the output of the operational amplifier (A), and the fifth switch (I5) is  
30 controlled by the first clock signal (H1).

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4. Capacitive sensor according to claim 2,  
characterised in that the second plate of the measuring  
capacitor is connected to a first plate of an  
insulation capacitor (C2) of which the second plate is  
5 connected to the inverting input (-) of an operational  
amplifier (A), wherein a fourth switch (Ia) controlled  
by the second clock signal (H2) has a first terminal  
connected to the first plate of the insulation  
capacitor (C2), a fifth switch (Ib) controlled by the  
10 first clock signal (H1) has a first terminal connected  
to the second plate of the insulation capacitor (C2),  
the fourth (Ia) and fifth (Ib) switches have their  
second terminals connected to one another and to a  
first plate of a negative feedback capacitor (C1), of  
15 which the second terminal is connected to the output of  
the operational amplifier (A), wherein a sixth switch  
(Ic) controlled by the first clock signal (H1) is  
mounted parallel with respect to the negative feedback  
capacitor (C1), the operational amplifier (A) has a  
20 non-inverting input (+) connected to the reference  
voltage  $V_{ref}$  of lower amplitude than the amplitude of  
the voltage  $V_h$ , and the second voltage  $V_{dd}$  is the  
supply voltage of the operational amplifier (A).

25 5. Capacitive sensor according to claim 2,  
characterised in that the second plate of the measuring  
capacitor (Cm) is connected to a first plate of an  
insulation capacitor (C2) of which the second plate is  
connected to the inverting input (-) of an operational  
30 amplifier (A), wherein a fourth switch (Ia) controlled  
by the second clock signal (H2) has a first terminal

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connected to the first plate of the insulation capacitor (C2), a fifth switch (Ib) controlled by the first clock signal (H1) has a first terminal connected to the second plate of the insulation capacitor (C2), the fourth (Ia) and fifth (Ib) switches have their second terminals connected to one another, a negative feedback capacitor (C1) has a first plate connected to the second terminals of the fourth and fifth switches by means of a sixth switch (Id) controlled by the second clock signal (H2), and to the voltage  $V_h$  by means of a seventh switch (Ie) controlled by the first clock signal (H1), and a second plate connected to the reference voltage by means of an eighth switch (If) controlled by the first clock signal (H1) and to the output of an operational amplifier (A) by means of a ninth switch (Ig) controlled by the second clock signal (H2), a tenth switch (Ic) controlled by the first clock signal (H1) having a first terminal connected to the second terminals of the fourth and fifth switches and a second terminal connected to the output of the operational amplifier of which the non-inverting input (+) is connected to the reference voltage  $V_{ref}$ , and the second voltage  $V_{dd}$  is the supply voltage of the operational amplifier (A).

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6. Measuring method with the help of a capacitive sensor including at least one measuring capacitor ( $C_m$ ) having a first and a second plate, with at least one plate being capable of being moved with respect to an optimal starting position by a measuring voltage applied between the plates in a measuring phase,

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characterised in that it includes, simultaneously to  
the application of a measuring voltage between the  
first and second plates, the application, between the  
first and second plates, of an actuation voltage  
5 capable of bringing the first and second plates  
substantially to the optimal starting position.